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DPD-3203-59
12 May 1959

MEMORANDUM FOR: Chief, Air Section, DPD-DD/P

SUBJECT : Materiel Annex to Report on Project

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Following is a summary of data related to the logistic support of two (2) C-130A which participated in aerial delivery missions at Edwards Air Force Base, California during the period 26 April thru 2 May 1959. The aircraft serial numbers 55-1 (50001) and 56-499 (60499) were assigned to the 314th Troop Carrier Wing at Sewart Air Force Base, Tennessee. It was previously agreed that, due to the relatively low in-commission rate of C-130's (approximately 40%), two aircraft would be furnished for this project even though the mission schedule could be met with only one.

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PERSONNEL.

1. The 314th Troop Carrier Wing furnished the following maintenance team:

- 1 Staff Sgt. - Engine Conditioning Specialist
- 1 Airman 2nd Class - Engine Conditioning Specialist
- 1 Staff Sgt. - Propeller Specialist
- 1 Staff Sgt. - Instrument Specialist
- 1 Airman 2nd Class - Electrical Specialist
- 1 Airman 3rd Class - Accessory Repairman
- 1 Staff Sgt. - Radar Repairman
- 1 Airman 2nd Class - Radio Repairman

2. In addition, the 314th provided two (2) Staff Sgt. Aircraft Maintenance Technicians and two (2) Tech Sgt. Flight Engineers. The former were the assigned crew chiefs who also performed flying

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duty as scanners. Edwards provided liaison personnel to assist in obtaining parts, service, etc. Field maintenance assistance was obtained from the hydraulic, electronics and sheet metal shops.

EQUIPMENT.

1. Edwards Air Force Base furnished all handling equipment consisting of Coleman Tractor, MD-3 auxiliary power unit, tow bar and maintenance stands. An exception occurred when, as a result of an unscheduled prop and engine change, Sewart provided the necessary engine stands and prop dolly although these same items were available at Edwards.

2. All special tools required for prop and engine change were provided by Edwards due to limited quantities at Sewart.

SUPPLIES.

1. No fly-a-way kit accompanied the aircraft from Sewart, however, a number of black boxes were brought along.

2. The following items were subsequently delivered from Sewart:

- a. One propeller
- b. One engine
- c. One air cooling turbine

3. Items obtained from Edwards stock were:

- a. One engine oil cooler (P/N 86250-1)

4. The following were repaired at Edwards:

- a. One coupling, cargo comp. cooling turbine (P/N 43033-25SH)

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5. Black boxes originally brought from Sewart that were subsequently repaired and/or replaced:

- a. 2 each BC-788E/BCR-718C
- b. 1 each C-N-221/APN-59
- c. 1 each RT-289/APN-59
- d. 1 each T-452/ARC-49
- e. 1 each R-608/ARC-49

MAINTENANCE.

1. Discrepancies:

a. 26 April - Aircraft #50001. Aborted at Sewart due to excessively high turbine inlet temperature. (Replaced P/N 616-012H)

b. 28 April - Aircraft #60499. Replaced cargo compartment air cooling turbine P/N 201160. Also repaired turbine coupling P/N 43033-256H. The turbine was delivered from Sewart and required one man about 1-1/2 hours to replace; excluding time to repair coupling.

c. 29 April - Aircraft #60499. Left MIG warning lite inoperative, however, L.G. handle lite and warning horn o.k. Replaced lite. NOTE: The C-130A possesses vibration characteristics which cause a very high attrition rate of light bulbs and fuses.

d. 29 April - Aircraft #60499. Hydraulic leak in door/ramp priority valve apparently corrected by tightening fittings. NOTE: Another C-130 characteristic resulting from vibration.

e. 29 April - Aircraft #60499. An intermittent oil leak in #2 engine oil cooler was corrected by replacing cooler assy. (P/N 86250-1)

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f. 1 May - Aircraft #50001. Failure to chock wheels after towing aircraft out of hangar permitted aircraft to roll into Coleman tractor which resulted in bent #2 prop and possible damage to reduction gear and engine. After prop and engine were delivered from Sewart on 2 May, only three hours were required to drop old engine and complete the change. Removal of damaged prop and time taken to disconnect lines, etc., on old engine not included.

SUMMARY.

1. Despite several discrepancies, the damage to prop and engine on #5001 was the only item which actually precluded the performance of any planned mission.

2. The availability of parts, field maintenance assistance, and C-130 handling equipment at Edwards were contributing factors to successful fulfillment of the mission. Without this back-up support, everything would have had to come from Sewart.

3. The Sewart maintenance team was composed of exceptionally well-trained airmen who are considered somewhat above the average airmen of equal rank and experience.

4. Despite a relatively high in-commission rate during this period, the air crews persisted in their belief that the normal rate was considerably lower---to a point that only about one third of the missions attempted by small increments of aircraft can be expected to be accomplished. Reasonable guarantee for successful accomplishment of single ship sorties can only be attained by positioning extensive support in personnel, equipment and spares at operating bases or by elaborate mobile maintenance support.

Additional data pertaining to C-130 capability and support requirements is available in separate report.

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